B-144 Micropropagation of *Rauvolfia serpentina* Benth ex. Kurz. through shoot tip culture technique

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Rauvolfia serpentina (S. Ekaveriya, Sans: Sarphagandha) occurs in the tropical regions of India, Sri Lanka, Burma, Andaman Islands and Java. It is generally found in shady places, among grasses and as an undershrub in moist areas.

Rauvolfia serpentina is a very valuable medicinal plant used in Ayurvedic medicine in Sri Lanka. There was no mass scale cultivation of *R. serpentina* due to the poor seed production and its low viability. Plants are mainly collected from the wild. As a result of continuous clearing of forest cover it is becoming endangered at present. Use of medicinal plants will undoubtedly continue to rise with the current rate of demand, necessitating the need for development of some plant propagating method for large scale cultivation. There are various types of conventional methods for cloning plants. Even in *R. serpentina* stem and root cuttings are insufficient to produce planting material for large scale cultivation.

The technique of micropropagation an alternative means of plant vegetative propagation takes a short time and small space. Thjus, it is possible to produce plants in large numbers starting from a single individual.

The multiple shoot production response of nodal explants to 3 combinations of auxins and cytokinins in Murashige and Skoog medium (MS) were determined. The shoot apices (1.5m) of the apical and axillary buds of *R. serpentina* propagated multiple shoots on MS medium containing Indole Acetic Acid (0.2 mg/l) and benzyl amino purine (3 mg/l). 3 passages of regular subculture on the same medium gave a higher number of shoots, with an average of 9-10/transfers. Rooting was induced by transferring the individual shoots to half strength MS medium containing 0.5 mg/l naphthalene acetic acid (NAA) and 0.2 mg/l Indole Butyric Acid (IBA) and 0.1 mg/l Benzyl Amino Purine (BAP) hormone combinations. Within 3-4 weeks of transfer, 100% rooting was achieved on MS medium containing 0.5 mg/l NAA, followed by callusing at the cut end. MS medium containing 0.2 mg/l IBA and 0.1 mg/l BAP produced 90% rooting without callusing at the cut end.